REMARKS

Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Reconsideration and allowance of this application, as amended, are respectfully requested.

Applicant appreciates the Examiner's indication of allowable subject matter in various of the claims. The allowable claims have been rewritten into independent form where appropriate. The following claim chart may be helpful in corresponding the new and old claims.

Orig. Claim #	Action	New claim	Comment
1	cancel		
2	amend		
3	amend		now depends from claim 2 only
4	amend		
5/4/3/1	cancel	32	
5/4/3/2	cancel	33	
6/1-	cancel	34	
6/2-	cancel	35	
7	amend		now depends from claim 2 only
8	cancel		
9	cancel		
10	cancel		
11	amend		amend to include subject matter of claim 1
12	amend		depends from 11
13	amend		now depends from claim 2 only
14/1-	cancel	36	
14/2-	cancel	37	
15	amend		now depends from claim 2 only
16/1-	cancel	38	
17/16/1	cancel	39	dependent
16/2-	cancel	40	
17/16/2	cancel	41	dependent
18/1-		42	
18/2-		43	
19	cancel		
20	cancel		
21	amend		
22	amend		now includes subject matter of claim 20
23	amend		depends from claim 23
24	amend		amended as to form
25	amend		
26	cancel	44	

27	amend	amend as to form
28	cancel	45
29	amend	amend as to form
30	amend	amended as to dependency
31	amend	amended as to dependency

The various 35 USC 112 problems noted by the Examiner have been corrected.

The prior art rejections of claims 2 and 25 (and respective dependent claims) are respectfully traversed. The ueda reference does not specifically disclose or even suggest the use of a labyrinth heat transfer space (see our Figures 21, 22A and 22B) required by these claims. The heat transfer gas is confined in the labyrinth heat transfer space which increases thermal transfer efficiency.

In view of the foregoing, the claims are now believed to be in form for allowance, and a Notice of Allowance for the claims as amended, is respectfully solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Attached is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned **"Version with markings to show changes made"**.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

2. (Amended) An electrode structure used in a plasma processing apparatus which performs a predetermined process on an object [(W)] to be processed by using a plasma in a process chamber [(26)] in which a vacuum can be formed, the electrode structure [is characterized by] comprising:

an electrode unit [(38; 110)] having a heater unit [(44; 116)] therein;

a cooling block [(40; 112)] joined to the electrode unit and having a cooling jacket [(58; 126)] which cools said electrode unit;

a labyrinth heat transfer space [(154)] formed by a concentric or spiral groove [(150)] provided on at least one of opposite surfaces of said electrode unit and said cooling block; and

electrode-side heat transfer gas supply means [(94; 142)] for supplying a heat transfer gas to said

labyrinth heat transfer space.

3. (Amended) The electrode structure as claimed in claim [1 or] 2, [characterized in that] further including an insulating member [(42; 114) is] provided between said electrode unit [(38; 110)] and said cooling block [(40; 112)], and wherein said heat transfer space [(62, 64; 128, 130)] is divided into an upper space [(62, 128)] and a lower space [(64, 130)] by the thermally insulating member.

4. (Amended) The electrode structure as claimed in claim 3, [characterized in that] wherein said thermally insulating member [(42; 114)] is made of a material having a coefficient of thermal conductivity of more than 80 W/mK at a process temperature of said object to be processed.

7. (Amended) The electrode structure as claimed in claim [1 or] 2, [characterized in that] wherein a surface roughness of a member defining said heat transfer space [(62, 64; 128, 130; 154)] is smaller than 2.0 [im] μm.

11. (Amended) An electrode structure used in a plasma processing apparatus which performs a predetermined process on an object to be processed by using a plasma in a process chamber in which a vacuum can be formed, the electrode structure, comprising:

an electrode unit having a heater unit therein;

a cooling block joined to the electrode unit and having a cooling jacket which cools said electrode unit;

a heat resistant metal seal member for sealing an electrode-side heat transfer space formed between said electrode unit and said cooling block; and

electrode-side heat transfer gas supply means for supplying a heat transfer gas to said electrode-side heat transfer space, [The electrode structure as claimed in claim l, characterized in that] wherein a surface of said heat resistant metal seal member [(66A, 66B, 68A, 68B; 132A, 132B, 134A, 134B)] is covered by a fluoride passivation film [(210)] having a corrosion resistance with respect a fluoride gas.

12. (Amended) The electrode structure as claimed in claim 11, [characterized in that] wherein said fluoride passivation film [(210)] is made of nickel fluoride.

13. (Amended) The electrode structure as claimed in claim [1 or] 2, [characterized in that] wherein said heater unit [(44; 116)] is a ceramic heater.

15. (Amended) The electrode structure as claimed in claim [1 or] 2, [characterized in that] wherein said electrode unit [(38; 110)] is an upper electrode unit [(110)] positioned above said object [(W)] to be processed.

21. (Amended) The placement table structure as claimed in claim 20, [characterized in that] wherein a surface of said heat resistant metal seal member [(66A, 66B, 68A, 68B; 132A, 132B, 134A, 134B)] is covered by a soft metal film [(206)] made of a [low melting

point] material having a softening point lower than a process temperature of said object to be processed which is softened at a process temperature of said object (W) to be processed.

23. (Amended) A placement table structure used for a processing apparatus performing a predetermined process on an object to be processed in a process chamber in which a vacuum can be formed, the placement table structure including:

a placement table having a heater unit therein so as to heat said object to be processed;

a cooling block joined to the placement table and having a cooling jacket which cools said placement table;

a heat resistant metal seal member for sealing a heat transfer space formed between said placement table and said cooling block; and

heat transfer gas supply means for supplying a heat transfer gas to said heat transfer space,

[The placement table structure as claimed in claim 20, characterized in that] wherein a surface of said heat resistant metal seal member [(66A, 66B, 68A, 68B; 132A, 132B, 134A, 134B)] is covered by a fluoride passivation film [(210)] having a corrosion resistance with respect a fluoride gas.

24. (Amended) The placement table structure as claimed in claim 23, [characterized in that] wherein said fluoride passivation film [(210)] is made of nickel fluoride.

25. (Amended) A placement table structure used for a processing apparatus performing a predetermined process on an object [(W)] to be processed in a process chamber [(26)] in which a vacuum can be formed, the placement table structure [is characterized by] comprising:

a placement table [(164)] having a heater unit [(44)] therein so as to heat said object to be processed; a cooling block joined to the placement table and having a cooling jacket [(58)] which cools said placement table [(164)];

a labyrinth heat transfer space [(154)] formed by a concentric or spiral groove [(150)] provided on at least one of opposite surfaces of said placement table and said cooling block; and

heat transfer gas supply means [(94)] for supplying a heat transfer gas to said labyrinth heat transfer space.

27. (Amended) The placement table structure as claimed in claim 25 or 44, [26, characterized in that] wherein a surface roughness of a member defining said heat-transfer space [(154)] is smaller than 2.0 [im] μm.

29. (Amended) The placement table structure as claimed in claim 25, [characterized in that] wherein the center of said placement table [(164)] is held by a column [(48)], and the column is connected to said cooling block [(40)] via a heat conductive member.

30. (Amended) A plasma processing apparatus [characterized by] comprising:

a process chamber [(26)] in which a vacuum can be formed;

an electrode structure [(28, 30)] recited in one of claims [1 to 19] 2, 3, 4, 7, 11, 12, 13, 15, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42 and 43; and

a high-frequency source [(56)] applying a high-frequency voltage to the electrode structure.

31. (Amended) A processing apparatus [characterize by] comprising:

a process chamber [(26)] in which a vacuum can be formed; and

a placement table structure [(162)] recited in one of claims [20 to 29] 23, 24, 25, 27 and 29.

End of Appendix